



west virginia department of environmental protection

Office of Oil and Gas
601 57th Street SE
Charleston, WV 25304
(304) 926-0450
(304) 926-0452 fax

Earl Ray Tomblin, Governor
Randy C. Huffman, Cabinet Secretary
www.dep.wv.gov

June 15, 2016

WELL WORK PLUGGING PERMIT

Plugging

This permit, API Well Number: 47-9700248, issued to EQT PRODUCTION COMPANY, is evidence of permission granted to perform the specified well work at the location described on the attached pages and located on the attached plat, subject to the provisions of Chapter 22 of the West Virginia Code of 1931, as amended, and all rules and regulations promulgated thereunder, and to all conditions and provisions outlined in the pages attached hereto. Notification shall be given by the operator to the Oil and Gas Inspector at least 24 hours prior to the construction of roads, locations, and/or pits for any permitted work. In addition, the well operator shall notify the same inspector 24 hours before any actual well work is commenced and prior to running and cementing casing. Spills or emergency discharges must be promptly reported by the operator to 1-800-642-3074 and to the Oil and Gas inspector.

Upon completion of the plugging well work, the above named operator will reclaim the site according to the provisions of WV Code 22-6-30. The above named operator will also file, as required in WV Code 22-6-23, an affidavit on form WR-38 by two experienced persons in the operator's employment and the Oil and Gas inspector that the work authorized under this permit was performed and a description given. Failure to abide by all statutory and regulatory provisions governing all duties and operations here under may result in suspensions or revocation of this permit and in addition may result in civil and/or criminal penalties being imposed upon the operator.

This permit will expire in two (2) years from date of issue. If there are any questions, please free to contact me at (304) 926-0499 ext. 1654.

James Martin
Chief

Operator's Well No: 8033
Farm Name: HILL, S. R., ETUX
API Well Number: 47-9700248
Permit Type: Plugging
Date Issued: 06/15/2016

Promoting a healthy environment.

06/17/2016

PERMIT CONDITIONS

West Virginia Code §22-6-11 allows the Office of Oil and Gas to place specific conditions upon this permit. Permit conditions have the same effect as law. Failure to adhere to the specified permit conditions may result in enforcement action.

CONDITIONS

1. All pits must be lined with a minimum of 20 mil thickness synthetic liner.
2. In the event of an accident or explosion causing loss of life or serious personal injury in or about the well or while working on the well, the well operator or its contractor shall give notice, stating the particulars of the accident or explosion, to the oil and gas inspector and the Chief within twenty-four (24) hours.
3. Well work activities shall not constitute a hazard to the safety of persons.
4. This well is under a consent order and must be plugged under the terms of that agreement.

Form WW-4 (B)
Permit Copy
Rev 2/01)

Date: May 10, 2016
Operator's Well
Well No. 608033 (S.R. Hill #2 8033)
API Well No.: 47 097 - 00248

OK 20963
100⁰⁰

STATE OF WEST VIRGINIA
DIVISION OF ENVIRONMENTAL PROTECTION
OFFICE OF OIL AND GAS

APPLICATION FOR A PERMIT TO PLUG AND ABANDON

1) Well Type: Oil Gas X Liquid Injection Waste Disposal:
If Gas, Production X Or Underground storage Deep Shallow X

2) Elevation: 1686 ft. Watershed: Finks Run
Location: Buckhannon County: Upshur Quadrangle: Berlin 7.5'
District:

3) Well Operator EQT Production Company 7) Designated Agent: Rex C. Ray
Address: 120 Professional Place Address: 120 Professional Place
Bridgeport, WV 26330 Bridgeport, WV 26330

4) Oil & Gas Bryan Harris 9) Plugging Contractor:
Name: P. O. Box 157 Name: HydroCarbon Well Service
Address: Volga, WV 26238 Address: PO BOX 995
 Buckhannon, WV 26201

0) Work Order: The work order for the manner of plugging this well is as follows:
See Attachment for details and procedures.

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JUN 01 2016

OFFICE USE ONLY

Notification must be given to the district oil and gas inspector 24 hours before permitted work can commence.

Work order approved by inspector

Bryan O'Hara Date 5-26-16

PLUGGING PROGNOSIS

Hill, S.R. #2 (608033)
 Upshur Co. WV
 District, Buckhannon
 API # 47-097-00248

BY: Craig Duckworth
 DATE: 11/18/15

CURRENT STATUS:

10" csg @ 312'
 8 1/4" csg @ 1227'
 6 5/8" csg @ 2485' (packer @ 2417')
 Elevation @ 1685'

TD: 4593'

Fresh Water @ 119' Coal @ 117' 1067'
 Saltwater @ 2171'
 Gas shows @ 610', 1054'-1066', 2028'-2031', 4558'-4561'
 Oil show @ 2157'

1. Notify State Inspector, **Brian Harris @ 304-553-6087**, 48 hrs.prior to commencing operations.
2. Check TD w/wireline **SPOT GEL**
3. TIH w/tbg to 4593', set 200' C1A cement plug from 4593' to 4393'. (Gas show @ 4558'-4561' Benson)
4. TOOH w/tbg to 4393', gel hole 4393' to 3500'
5. TOOH w/tbg to 3500' set 200' C1A cement plug from 3500' to 3300', (safety plug).
6. TOOH w/tbg to 3300' gel hole 3300' to 2535'.
7. TOOH w/tbg to 2535', set 100' C1A cement plug 2535' to 2435'. (6 5/8" csg @ 2485').
8. TOOH w/tbg, Free point 6 5/8" csg, cut csg @ free point, TOOH w/csg.
9. Set 100' C1A cement plug 50' in/out of casing cut, perforate all freshwater, saltwater, coal, oil and gas shows below cut. Do not omit any plugs.
10. TIH w/tbg to 2435' gel hole from 2435' to 2080'.
11. TOOH w/tbg to 2080', set 100' C1A cement plug 2080' to 1980'. (gas show @ 2028'-2031').
12. TOOH w/tbg to 1980', gel hole 1980' to 1735'
13. TOOH w/tbg to 1685', set 100' C1A cement plug 1685' to 1585'. (elevation @ 1685').
14. TOOH w/tbg to 1585' gel hole 1585' to 1277'.
15. TOOH w/tbg to 1277', set 300' C1A cement plug 1277' to 977'. (8 1/4" csg seat @1227' & gas show @ 1066'). **& COAL.**

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 WV Department of
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16. TOOH w/tbg, Free point 8 1/4" csg, cut csg at free point, TOOH w/csg.
17. Set 100' C1A cement plug 50' in/out of casing cut, perforate all freshwater, saltwater, coal, oil and gas shows below cut. Do not omit any plugs.
18. TIH w/tbg to 977' gel hole from 977' to 660'.
19. TOOH w/tbg to 660', set 100' C1A cement plug 660' to 560'. (gas show @ 610')
20. TOOH w/tbg to 560' gel hole from 560' to 362'.
21. TOOH w/tbg to 362', set 362' C1A cement plug, 362' to 0. (10" csg @ 312' & FW @ 119')
22. Free point 10" casing, cut casing @ free point, TOOH w/csg.
23. Set 100' C1A cement plug 50' in/out of casing cut, perforate all freshwater, saltwater, coal, oil and gas shows below cut. Do not omit any plugs
24. Erect monument with API#
25. Reclaim location and road to WV-DEP specifications.

→ FREEPOINT 10" BEFORE STEP 21.

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WEST VIRGINIA DEPARTMENT OF MINES
OIL & GAS DIVISION
WELL RECORD

Permit No. Ups 243
Weston S.E. Quad.
Company
Address
Farm
Location
Well No.
District
Surface
Mineral
Commenced
Completed
Date shot
Open flow
Volume
Rock Pressure
Fresh Water
Salt Water

47-097-00248
608033
Pittsburgh & W.Va. Gas Company
Clarksburg, W.Va.
S.R. Hill et ux Acres 400
Weston S.E. 4-4
0033 Elev. 1686'L
Duckhannon Upshur County
S.R. Hill et ux, R.D.#1
Duckhannon, W.Va.
S.R. Hill et ux, R.D.#1
Duckhannon, W.Va.
Oct. 13, 1944
Feb. 8, 1945
2-9-45 Depth 4557 to 4567
with 70 qts. Nitro Glycerine
5/10ths W in 1 1/2"
45,000 C.F.
1225 lbs. 125 hrs.
119' 1/2 Dlr. Hr.
2171' H.F.

Gas Well
CASING & TURNING

10 312 312
8 1/2 1227 1227
5 5/8 2405 2485

Anchor Packer
Size 8 1/2" x 6 5/8"
Depth 2417'

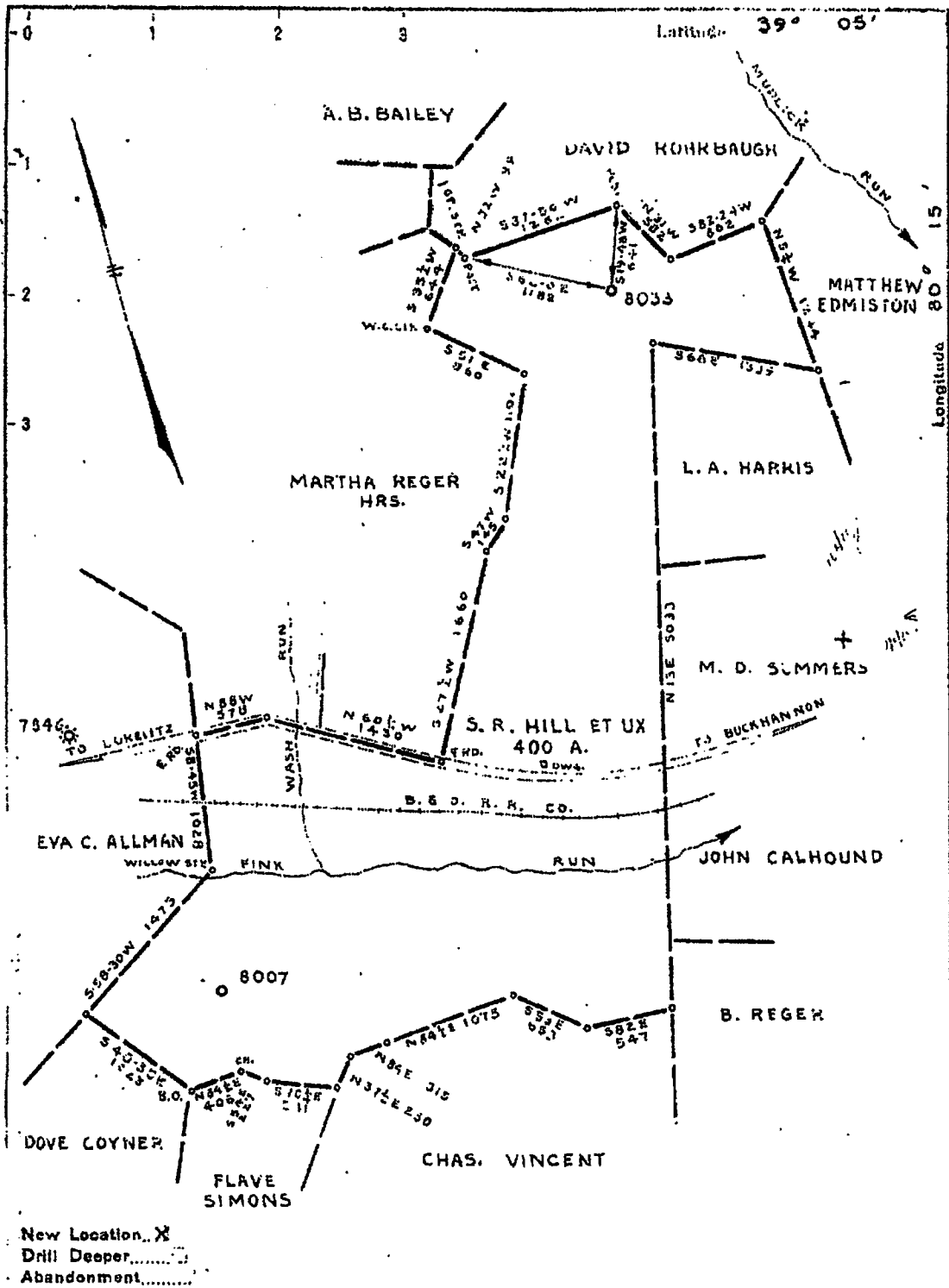
Coal at 117' 24";
1057' 24"

Clay	Y	S	0	16	Lime	Lt	H	2374	2391
Sand	Bl	H	16	48	Slate		S	2391	2393
Slate	Wh	S	48	60	Lime Gritty Dk		H	2393	2446
Rcd Rock		S	60	78	Slate	Dk	S	2446	2452
Slate	Dk	S	78	117	Lime Gritty Dk		H	2452	2467
Coal	Dk	S	117	119	Slate & Shells Dk		H&S	2467	2482
Slate-Lime Dk-Wh H&S			119	217	Lime Gritty Dk		H	2402	2493
Red Rock		S	217	312	Slate & Shells		H&S	2493	2515
Slate	Wh	S	312	325	Gordon Sand Dk		H	2515	2565
Slate	Red	S	325	429	Slate & Sand, Shells Dk		H&S	2565	2587
Slate & Shells-Lime Lt			429	620	4th Sand	Dk	H	2587	2610
Sand	Wh	Close	620	640	Slate-Shells Wh		S&H	2610	2653
Slate & Shells Dk S&H			640	702	5th Sand	Dk	H	2653	2702
L. Dunkard Wh		Close	702	811	Slate & Shells Wh		S&H	2702	3941
Slate & Shells Wh S&H			811	860	& Lime				
Lime, Gritty Dk		H	860	891	Gritty Lime Dk		H	3941	3987
Slate	Dk	S	891	904	Slate & Shells Wh		S&H	3987	4210
Big Dunkard Dk		H	904	934	& Lime				
Slate, Shells Dk		S-H	934	1000	Riley Sand	Dr	H	4218	4233
Lime, Gritty Lt		H	1000	1039	Slate & Shells Wh		S&H	4233	4557
1st Salt Sand-Wh		H	1039	1067	Donson Sand	Dr	H	4557	4567
Coal	Dk	S	1067	1068	Slate Shells	Gr	S&H	4567	4593
Lime Gritty, Sl&Sh. Dk			1068	1130	TOTAL DEPTH				4593
Gritty	Lt	H	1130	1141					
2nd Salt Sand Lt		H	1141	1175	Sh. gas 610'				
Slate & Shells Dk S&H			1175	1189	Gas 1054-1066' 8/10 W 1"				
2nd Salt Sand Lt		H	1189	1377	Gas 2028-2031' 16/10 W 1" Opng.				
Slate, Lime, Shs. Dk		S	1377	1508	Sh. Oil 2157'				
Rosedale Gas Sd. Dk		Cl.	1508	1543	Gas 4558-4561 10/10 W 1"				
Sl.&Shells	Dk	S	1543	1553					
Rosedale Salt Sd Dk		H	1553	1563					
Slate & Shells Red		S&H	1563	1569					
Maxon Sand	Gr	H	1569	1800					
Slate & Shells Red		S&H	1800	1830					
Lime Gritty	Dk	H	1830	1844					
Slate	Dk	S	1844	1850					
Lime	Dk	H	1850	1870					
Slate	Dk	S	1870	1877					
Big Lime	Wh	H	1877	1969					
Big Injun	Wh	H	1969	2000					
Shale	Red	S	2000	2011					
Big Injun	Wh	H	2011	2099					
Slate	Dk	S	2099	2124					
Lime	Wh	H	2124	2145					
Berea	Dk	H	2145	2266					
Slate	Dk	S	2266	2263					
100' Sand	Dk	H	2263	2363					
Red Rock		S	2363	2366					
Sand	Dk	H	2366	2372					
Slate	Dk	S	2372	2374					

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Company PITTSBURGH & W. VA. GAS
 Address CLARKSBURG, W. VA.
 Farm S. R. HILL ET UX
 Tract _____ Acres 400 Lease No. 22930
 Well (Farm) No. 2 Serial No. 8033
 Elevation (Spirit Level) 1622 V.A.
 Quadrangle WESTON S. E. 4⁴
 County UPSHUR District BUCKHANNON
 Engineer James J. [Signature]
 Engineer's Registration No. 1084
 File No. D. 15 - P. 48 Drawing No. _____
 Date JUNE 15, 1944 Scale 1" = 1000'

STATE OF WEST VIRGINIA
 DEPARTMENT OF MINES
 OIL AND GAS DIVISION
 CHARLESTON

WELL LOCATION MAP
 FILE NO. UP 82-368
 Office of Oil and Gas

+ Denotes location of well on United States Topographic Maps, scale to 62,500, altitude and longitude lines being represented by border lines as shown
 - Denotes one foot spaces on border line of original tracing.

West Virginia Department of Environmental Protection

WW-4-A
Revised 6/07

1) Date: May 10, 2016
2) Operator's Well Number
608033 (S.R. Hill #2 8033)
3) API Well No.: 47 097 - 00248
State County Permit

STATE OF WEST VIRGINIA - BUREAU OF ENVIRONMENT
DIVISION OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL & GAS
NOTICE AND APPLICATION TO PLUG AND ABANDON WELL

4) Surface Owner(s) to be served:
(a) Name Attention: Lorentz Hall
Address Leren Properties
P. O. Box 2468
Buckhannon, WV 26201
(b) Name _____
Address _____
(c) Name _____
Address _____
6) Inspector Bryan Harris
Address P. O. Box 157
Volga, WV 26238
Telephone (304) 553-6087

5) (a) Coal Operator:
Name None
Address _____
(b) Coal Owner(s) with Declaration
Name Patriot Coal
P. O. Box 1001
Address Scott Depot, WV 25560
Name _____
Address _____
(c) Coal Lessee with Declaration
Name None
Address _____

TO THE PERSONS NAMED ABOVE: You should have received this Form and the following documents:

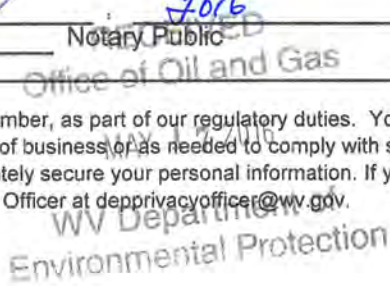
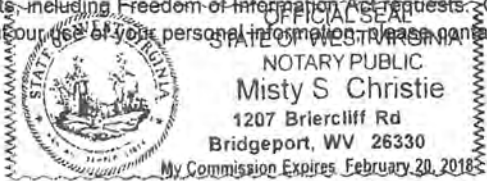
- (1) The application to Plug and Abandon a Well on Form WW-4B, which sets out the parties involved in the work and describes the well its and the plugging work order; and
 - (2) The plat (surveyor's map) showing the well location on Form WW-6.
- The reason you received these documents is that you have rights regarding the application which are summarized in the instructions on the reverses side. However, you are not required to take any action at all.

Take notice that under Chapter 22-6 of the West Virginia Code, the undersigned well operator proposes to file or has filed this Notice and Application and accompanying documents for a permit to plug and abandon a well with the Chief of the Office of Oil and Gas, West Virginia Division of Environmental Protection, with respect to the well at the location described on the attached Application and depicted on the attached Form WW-6. Copies of this Notice, the Application, and the plat have been mailed by registered or certified mail or delivered by hand to the person(s) named above (or by publication in certain circumstances) on or before the day of mailing or delivery to the Chief.

Well Operator: EQT Production Company
By: Victoria J. Roark
Its: Permitting Supervisor
Address: PO Box 280
Bridgeport, WV 26330
Telephone: (304) 848-0076

Subscribed and sworn before me this 12th day of May, 2016
Misty S. Christie Notary Public
My Commission Expires: 2/20/16

The Office of Oil & Gas processes your personal information, such as name, address and phone number, as part of our regulatory duties. Your personal information may be disclosed to other State agencies or third parties in the normal course of business, as needed to comply with statutory or regulatory requirements, including Freedom of Information Act requests. Our office will appropriately secure your personal information. If you have any questions about our use of your personal information, please contact DEP's Chief Privacy Officer at depprivacyofficer@wv.gov.



STATE OF WEST VIRGINIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL & GAS
CONSTRUCTION AND RECLAMATION PLAN AND SITE REGISTRATION APPLICATION FORM
GENERAL PERMIT FOR OIL AND GAS PIT WASTE DISCHARGE

Operator Name: EQT PRODUCTION COMPANY OP ID: _____
Watershed: Finks Run Quadrangle: Berlin 7.5'
Elevation: 1686 ft. County: Upshur District: Buckhannon

Description of anticipated Pit Waste: Formation Fluids

Do you anticipate using more than 5,000 bbls of water to complete the proposed well work? Yes ___ No X
Will synthetic liner be used in the pit? Yes Is so, what ml.? ~~10 ml~~ 20 ml minimum

Proposed Disposal Method for Treated Pit Wastes:
 Land Application
 Underground Injection - UIC Permit Number _____
 Reuse (at API Number) - Various _____
 Offsite Disposal Permit #. see attached _____
 Other: Explain _____

Drilling medium anticipated for this well? Air, freshwater, oil based, etc. _____
If oil based, what type? Synthetic, petroleum, etc. _____
Additives to be used? _____

Will closed loop system be used? _____
Drill Cuttings disposal method? Leave in pit, landfill, remove offsite, etc. _____
If left in pit and plan to solidify what medium will be used? Cement, Lime, sawdust _____
Landfill or offsite name/permit number? _____

I certify that I understand and agree to the terms and conditions of the GENERAL WATER POLLUTION PERMIT issued on August 1, 2005, by the Office of Oil and Gas of the West Virginia Division of Environmental Protection. I understand that the provisions of the permit are enforceable by law. Violations of any terms or condition of the general permit and/or other applicable law or regulation can lead to enforcement action.
I certify under penalty of law that I have personally examined and am familiar with the information submitted on this application form and all attachments thereto and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine or imprisonment.

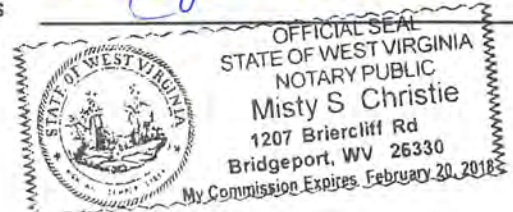
Company Official Signature *Victoria Roark*

Company Official (Typed or Printed) Victoria Roark

Company Official Title Permitting Supervisor-WV

Subscribed and sworn before me this 12th day of May Office of Oil & Gas **RECEIVED**

My Commission Expires _____ Notary Public Misty S. Christie MAY 17 2016



WV Department of Environmental Protection

EQT Production Water plan Offsite disposals
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Waste Management - Meadowfill Landfill

Rt. 2, Box 68 Dawson Drive
Bridgeport, WV 26330
304-326-6027
Permit #SWF-1032-98
Approval #100785WV

Waste Management - Northwestern Landfill

512 E. Dry Road
Parkersburg, WV 26104
304-428-0602
Permit #SWF-1025 WV-0109400
Approval #100833WV

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06/17/2016

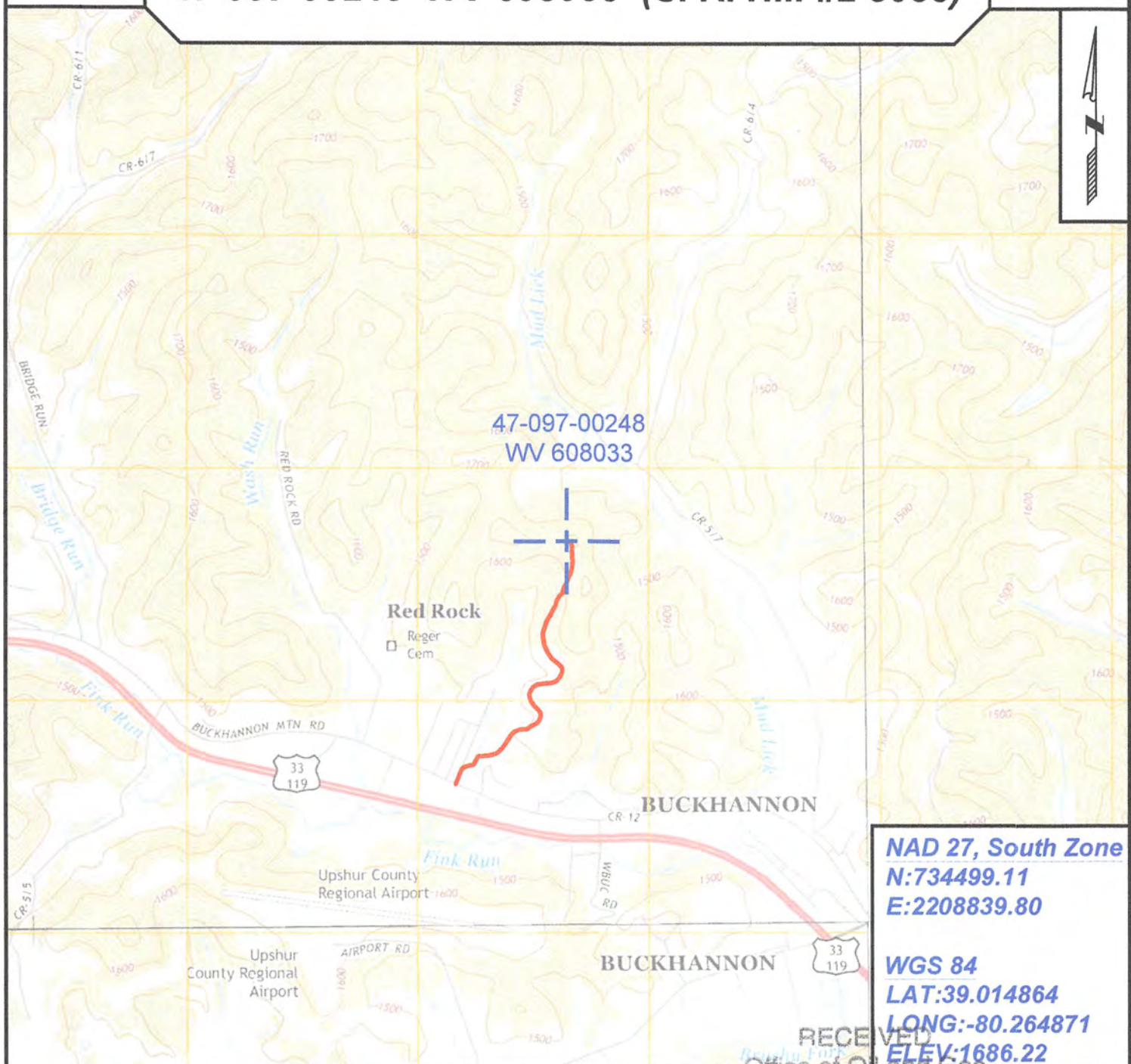
Topo Quad: Berlin 7.5' Scale: 1" = 2000'

County: Upshur Date: April 26, 2016

District: Buckhannon Project No: 39-09-00-09

47-097-00248 WV 608033 (S. R. Hill #2 8033)

Topo



47-097-00248
WV 608033

NAD 27, South Zone
N:734499.11
E:2208839.80

WGS 84
LAT:39.014864
LONG:-80.264871
ELEV:1686.22

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SURVEYING AND MAPPING SERVICES PERFORMED BY:
ALLEGHENY SURVEYS, INC.
 1-800-482-8606
 237 Birch River Road
 Birch River, WV 26610
 PH: (304) 649-8606
 FAX: (304) 649-8608

PREPARED FOR:
EQT Production Company
 P.O. Box 280
 WV Department of Environmental Protection
 Bridgeport, WV 26330
 MAY 17 2016
06/17/2016



POTENTIAL WATER SAMPLE DATA SHEET

CLIENT: EOT PRODUCTION COMPANY
LEASE NAME AND WELL No. S. R. Hill #2 8033 - WV 608033 - API No. 47-097-00248

POTENTIAL SAMPLE LOCATIONS

There appears to be no known water samples within the required 1000' of the existing well WV 608033.

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BIRCH RIVER OFFICE
237 Birch River Road
Birch River, WV 26610
phone: 304-649-8606
fax: 304-649-8608

BRIDGEPORT OFFICE
172 Thompson Drive
Bridgeport, WV 26330
phone: 304-848-5035
fax: 304-848-5037

ALUM CREEK OFFICE
P.O. Box 108 • 1413 Childress Rd
Alum Creek, WV 25003
phone: 304-756-2949
fax: 304-756-2948

MARTINSBURG OFFICE
25 Lights Addition Drive
Martinsburg, WV 25404
phone: 304-901-2162
fax: 304-901-2182

Topo Quad: Berlin 7.5' Scale: 1" = 2000'
 County: Upshur Date: April 26, 2016
 District: Buckhannon Project No: 39-09-00-09

Water

47-097-00248 WV 608033 (S. R. Hill #2 8033)

No Potential Water Sources within 1000'

47-097-00248
WV 608033



Red Rock

Reger
Cem

BUCKHANNON

NAD 27, South Zone
N:734499.11
E:2208839.80

WGS 84
LAT: 39.014864
LONG: -80.264871
ELEV: 1686.22

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MAY 17 2016



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ALLEGHENY SURVEYS, INC.

1-800-482-8606
237 Birch River Road
Birch River, WV 26610
PH: (304) 649-8606
FAX: (304) 649-8608

PREPARED FOR:
WV Department of
EQT Production Company

P.O. Box 280
Bridgeport, WV 26330

06/17/2016